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ABSTRACT

One of a set of fourteen instructional outlines for use in a course to train novice firemen, this guide covers the topic of forcible entry. Due to the nature of the subject, this part of the course is taught basically by lecture method, although practical applications by students are suggested wherever possible. The major areas of study include types of (1) building construction; (2) forcible entry tools; (3) doors; (4) property barriers, such as hedges and fences; (5) windows; (6) roofs; (7) floors; (8) walls, partitions, and ceilings; and (9) federal property. The objectives for this part of the course are satisfied when the fireman can identify various tools and describe the techniques used in forcible entry. This outline is to be used in conjunction with the Robert J. Brady Transparencies and the International Fire Service Training Association's Manual No. 101, "Forcible Entry, Rope and Portable Fire Extinguisher Practices" (see note). (An outline of the whole course covering all fourteen topics briefly is provided in the first volume of the set--CE 016 662.) (ELG)

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INTRODUCTION

Many times before rescue or fire extinguishment can be performed, certain preliminary functions are required. One of these functions is commonly known by the term, "Forcible Entry". Forcible entry involves gaining access to areas where normal openings are locked, normal openings are blocked, and areas where openings are not provided. In order for a fireman to perform these operations, it is important that he knows the various types of forcible entry tools and their safe and proper use. A knowledge of tools, as well as building trade names and construction characteristics, is also important, if firemen are to select the proper tool and technique for forcible entry.

It is easily understood how firemen, in their eagerness to protect life and property, may resort to methods that have not been proven through practice, thus needlessly destroying property in their efforts. In order to prevent this, firemen must be properly instructed in forcible entry techniques.

Presentation

This outline covers the various phases of forcible entry. It is the instructors' responsibility to adapt this outline to the local situation. This course is designed for the lecture method of instruction. As much as possible, though, practical application by the student should be employed.

Objective

To develop the firemen's skill in forcible entry practices so that he can demonstrate proficiency by identifying various tools and describing some forcible entry techniques. This will be considered accomplished when performed to the satisfaction of the instructor.

Required Materials

1. Forcible entry tools.
2. Transparencies on Forcible Entry.
3. Overhead projector.
4. Screen.
5. Handout material.

Additional Recommendations

1. Building mock-up.
2. Site for practicing forcible entry techniques.

COURSE OUTLINE	GUIDES
I. Opening Remarks.	
A. Firemen, in their eagerness to protect life and property, may resort to methods that have not been proven through practice and thus needlessly destroy property in their efforts.	
B. Therefore, knowledge of the following are necessary to ensure an efficient service.	
1. Building construction.	
2. Tools.	
3. Forcible entry techniques.	
II. General Building Construction. (Helps in deciding where, how, and tools to be used in forcible entry.)	
A. Foundations (modern construction) may extend well above ground.	IFSTA Manual 101, Pgs. 8 and 9
1. Concrete.	
2. Brick.	
3. Stone.	
B. Exterior walls.	
1. Masonry - most desirable.	
2. Masonry veneer.	
3. Metal.	
4. Wood frame.	
(a) Hollow spaces.	Brady Transp. F.E. #3
(b) Fire stops used.	
(c) Top and bottom plates.	

COURSE OUTLINE	GUIDES
C. Floors and roofs. 1. Concrete. 2. Metal. 3. Wood. D. General terms in house construction. 1. Tile flue liner. 2. Ridge board. 3. Metal flashing. 4. Rafter. 5. Roof decking. 6. Shingles or sheet fin. 7. Ceiling joist. 8. Top plate. 9. Eave closure. 10. Wood siding. 11. Sheathing. 12. Stud. 13. Sole or sill. 14. Header. 15. Rigid insulation and/or sheating.	

COURSE OUTLINE	GUIDES
16. Interior wall covering.	
(a) Plaster.	
(b) Sheet rock.	
(c) Paneling.	
17. Brick veneer.	
18. Floor.	
(a) Sub or rough.	
(b) Finish.	
19. Cross bridge.	
20. Floor joist.	
21. Box sill.	
22. Plate.	
23. Anchor.	
24. Foundation.	
25. Basement floor.	
26. Footing.	
III. Forcible Entry Tools.	IFSTA Manual 101, P. 11
A. General.	
1. Used to force, pull, pry and cut.	

COURSE OUTLINE	GUIDES
2. Many developed by firemen. 3. Should be properly maintained. B. Types. 1. Hatchets. 2. Flat head axe - special sharpening procedure. 3. Pick head axe - special sharpening procedure. 4. Pry-axe. 5. Pike pole. 6. Plaster hook. 7. Wrecking bar. 8. Crowbar. 9. Claw tool. 10. Kelly tool. 11. Halligan tool. 12. Spanner wrench. 13. Portable saws. (a) Gasoline. (b) Electric. 14. Oxy-acetylene cutting unit.	Brady Transp. F.E. 1 and 2 Discuss uses, method of caring, safety, and maintenance of each tool

COURSE OUTLINE	GUIDES
15. Wire or bolt cutters.	
16. Hammer head pick.	
17. Sledge hammer.	
18. Battering ram.	
IV. Doors.	
A. Types of doors.	
1. Swinging.	
2. Revolving.	
3. Overhead.	
4. Sliding.	
B. Construction of swinging doors.	
1. Wood swinging doors and jamb construction.	
(a) Panel doors.	
(1) May contain wood or glass panels.	
(2) Panels may be held in place by molding.	
(b) Slab doors.	IFSTA Manual 101, P. 16 and 17
(1) Solid core.	
(2) Hollow core.	
(c) Ledge doors types.	

COURSE OUTLINE	GUIDES
(1) Ledge.	
(2) Frame and ledge.	
(3) Frame and braced.	
(d) Jambs.	IFSTA Manual 101, P. 17
(1) Stopped.	
(2) Rabbeted.	
2. Metal swinging doors and jambs.	IFSTA Manual 101, P. 18 and 19
(a) Hollow metal.	
(b) Metal covered.	
(c) Tubular.	
(d) Jambs - usually one piece constructed metal frames.	
3. Swinging door locks and fasteners.	IFSTA Manual 101, P. 21
(a) Types.	Describe various types of locks
(1) Bolt.	
(2) Bar.	
(3) Keeper.	
(b) Some may be double locked - these are very hard to force.	
C. Forcing swinging doors.	

COURSE OUTLINE	GUIDES
1. Check before you pry.	
2. Things to check for.	
(a) How is door hung.	
(b) Type of lock.	
(c) Can hinge pins be removed.	Brady Transp. F.E. #6
(d) Is fire or heat present on opposite side of door.	
(e) Danger of back draft.	
3. Doors containing glass.	IFSTA Manual 101, P. 22
(a) Break glass to gain access to lock.	
(b) Will result in less damage.	
(c) Procedure for breaking glass.	Brady Transp. F.E. #5
(1) Never use hands.	
(2) Stand on windward side.	
(3) Strike tool at top of pane.	
(4) Keep hands above point of impact.	
(5) Remove jagged pieces.	
(6) Full protective clothing should be worn.	
4. Breaking the lock.	IFSTA Manual 101, P. 23
(a) May result in less damage than if door is forced.	
(b) Using lock puller.	

COURSE OUTLINE	GUIDES
(1) Hook lock puller above ring of lock.	
(2) Drive tool behind ring.	
(3) Lift straight up to pry cylinder out.	
(4) Insert appropriate end of key into hole and turn.	
5. Procedures for forcing doors that open toward you.	Brady Transp. F.E. #4
(a) Near lock.	
(b) Insert blade between door and jamb.	IFSTA Manual 101, P. 24
(c) Work or drive tool into position.	
(d) Pry on tool away from door.	
(e) Pull door open with hands or by using another tool.	
(f) For heavy doors, two tools may be required.	
6. Procedures for forcing doors that open away from you - stopped construction.	Brady Transp. F.E. #4
(a) Remove stop.	IFSTA Manual 101, P. 28
(b) Insert blade between door and jamb.	
(c) With full bite, pry door away from jamb.	
(d) When bolt has passed keeper, push door inward.	
7. Procedures for opening doors that open away from you - rabbeted jamb.	IFSTA Manual 101, P. 27

COURSE OUTLINE	GUIDES
(a) Requires two tools.	Maybe extremely difficult
(b) Lay tool flat against door.	
(c) Insert blade between rabbet and door.	
(d) With short pries on first tool, work blade of second tool between door and jamb.	
D. Forcing double swing doors.	IFSTA Manual 101, P. 28
1. If door contains glass, break and unlock.	
2. Hasp and padlock - pry off.	
3. Conventional lock.	
(a) Remove molding strip, if present.	
(b) Insert blade of tools between door.	
(c) Pry.	
4. Bars.	
(a) Pry doors apart.	
(b) Lift or bump bar from stirrups.	
(c) Cut hole in door to remove bar.	
(d) Everything else fails, batter in door.	
E. Tempered glass doors.	IFSTA Manual 101, P. 29 and 31
1. Tempered glass doors are constructed for strength and flexibility.	
2. Because of cost, use other means of entrance when possible.	

COURSE OUTLINES	GUIDES
3. Blunt faced tools are seldom effective in breaking tempered glass.	
4. To break or gain entrance through tempered glass doors.	
(a) Shield operator with face shield or place old salvage cover over door.	
(b) Use pike poles to keep cover in place.	
(c) Using pick side of axe, strike door with hard blow.	
F. Revolving doors.	IFSTA Manual 101, P. 33
1. Types.	
(a) Panic-proof.	
(b) Drop-arm.	
(c) Metal-braced.	
2. Forcing.	
(a) Avoid if possible.	
(b) Break glass panels.	
G. Sliding doors.	
1. Operate on a track.	
2. Patio type expensive - avoid breaking.	
3. To force.	
(a) Insert blade of tool between jamb and door.	
(b) Pry away from door.	

COURSE OUTLINES	GUIDES
H. Overhead doors.	IFSTA Manual 101, P. 36
1. Overhead rolling doors.	
(a) Construction.	
(1) Steel.	
(2) Aluminum.	
(3) Some wood.	
(b) Raising principle.	
(1) Gears raise door.	
(2) Manually or electrically driven.	
(c) Forcing.	Use other means of entrance and operate door from inside
(1) These type doors extemely hard to force, if not impossible.	
(2) Using heavy pry bar, lift door sufficient.	
(3) To place railroad jack underneath.	
(4) Jack up door.	
(5) This will probably damage gears.	
(6) BLOCK DOOR OPEN.	
2. Overhead folding doors.	Brady Transp. F.E. #7
(a) Construction.	
(1) Metal.	
(2) Fiberglass.	

COURSE OUTLINE	GUIDES
(3) Wood framework.	IFSTA Manual 101, P. 34
(4) Wood or glass panels.	
(b) Forcing - may be complicated if door is motor driven.	
(1) Knock out panel next to lock.	
(2) Turn latch.	
(3) BLOCK DOOR OPEN.	
(4) If door locked with padlock, it may be necessary to batter door down.	
3. Overhead slab door.	IFSTA Manual 101, P. 36
(a) Construction.	
(1) Metal.	
(2) Fiberglass.	
(3) Wood.	
(b) Forcing - unless glass panels are present, it is almost impossible to reach latch on inside.	Use other entrance means when possible
(1) Using pry tools on each side of door.	
(2) Pry outward.	
(3) Bending latches.	
(4) If this fails, attempt to cut thru door with proper tools.	
(5) BLOCK DOOR OPEN.	

COURSE OUTLINE	GUIDES
I. Fire doors.	
1. Types.	IFSTA Manual 101, P. 38
(a) Horizontal and vertical sliding.	
(b) Single and double swinging.	
(c) Overhead rolling.	
2. Purpose.	
(a) To act as fire barriers between buildings or in firewalls.	
(b) To act as fire barriers in vertical openings.	
3. Operation.	
(a) Self-closing - door stays closed.	
(b) Automatic.	
4. Forcing fire doors.	
(a) Fire doors, because of their protective qualities, generally are not considered as doors that need to be forced.	
(b) Fire doors that close automatically need only to be pried open with suitable forcible entry tools.	
(c) Fire doors on exterior openings may be locked and must be forced.	
NOTE: As a precautionary measure, firemen should block a fire door open as they pass through it to insure that the door will not close and trap them on the opposite side. The water supply in a hose line could also be cut off by a closing fire door.	

COURSE OUTLINE	GUIDES
J. Property barriers.	
1. Hedges.	
(a) Avoid when possible.	
(b) Good public relations to avoid cutting.	
(c) Cut when essential.	
2. Fences.	
(a) At gates.	
(1) Prise off locks.	
(2) Cut locks or chains.	
(3) Strike lock and spring it.	
(b) In the fence.	IFSTA Manual 101, Pgs. 39, 40, & 41
(1) Wooden fences.	
(a) Avoid unnecessary damage.	
(b) Use "A" frame ladder.	
(c) Prise off boards.	
(c) Barb wire.	
(1) Cut near post.	
(2) Watch for whip coil.	
(d) Woven wire.	
(1) Use "A" frame ladder.	
(2) Cut - except cyclone type fences, cut only as last resort.	

COURSE OUTLINE	GUIDES
(e) Masonry.	
(1) Avoid when possible.	
(2) Use "A" frame ladders.	
(3) Breach - only as a last resort.	
V. Windows Construction and Forcing Techniques.	
A. Check rail or double hung.	IFSTA Manual 101, P. 43
1. Construction.	Describe
(a) Wood.	
(b) Metal.	
2. Forcing.	Brady Transp. F.E. #8
(a) Wooden construction.	
(1) Break glass and unlock.	
(2) Pry in center under lower sash.	
(b) Metal construction.	
(1) Damage may result from a pry attempt.	
(2) Break glass.	
3. Procedure for breaking glass.	Describe
NOTE: Wire glass is usually harder to break.	
B. Casement or hinged window.	Brady Transp. F.E. #9
1. Construction.	

(a) Metal.

(b) Some wood.

(c) Usually covered by screen on inside.

IFSTA Manual 101, P. 44

2. Forcing.

(a) Break glass.

(b) Remove broken pieces.

(c) Force or cut screen.

(d) Unlock latch.

(e) Operate crank.

(f) Completely remove screen.

C. Projected or factory windows.

IFSTA Manual 101, P. 45
Describe

1. Construction.

(a) Metal.

(b) May swing in or out.

2. Forcing.

(a) Remove screen if present.

(b) Break glass.

(c) Remove jagged edges.

(d) Reach inside, unlatch and open.

D. Awning or jalousie windows.

IFSTA Manual 101, P. 46

COURSE OUTLINE	GUIDES
1. Differences.	
(a) Awning windows.	
(1) Large sections of glass.	
(2) Have metal or wood frame.	
(b) Jalousie windows.	
(1) Small sections of glass.	
(2) Glass not framed.	
(c) Operating mechanism similar.	
2. Forcing.	
NOTE: Because of the cost of these type windows, do not force unless absolutely necessary.	
E. Storm windows.	IFSTA Manual 101, P. 49
1. Because of expense, avoid damaging the frame.	
2. Some can be raised from outside, otherwise.	
3. Cut screen or break glass to gain entrance.	
F. Special windows.	
1. Types.	
(a) Stained glass.	
(b) Plate glass.	
(c) Round decorative windows.	
(d) Double pane windows.	
2. Because of cost, avoid breaking.	

COURSE OUTLINE	GUIDES
3. Procedures for breaking.	
G. Breaking glass in upper floors.	
1. Break to inside.	
2. Falling broken glass endangers personnel.	IFSTA Manual 101, P. 51
3. Use of suction cup.	
H. Screened or barred windows.	IFSTA Manual, P. 47
1. Heavy screens.	
(a) Usually difficult to force.	
(b) May require special cutting tools or vehicle winche.	
2. Bars - forcing.	Brady Transp. F.E. #10
(a) Stike bar in center with sledge hammer.	
(b) Strike concrete sill with sledge hammer.	IFSTA Manual 101, P. 48
(c) Drive pick in beside of bar.	
3. Iron gratings.	
(a) Lift out.	
(b) Use cutting torch or power cutting tools.	
VI. Roofs.	
A. Types of roofs.	
1. Flat.	
2. Pitched.	

COURSE OUTLINE	GUIDES
3. Arched.	Brady Transp. F.E. #11
B. Common styles.	
1. Flat.	IFSTA Manual 101, P. 52
2. Gable.	
3. Gambrel.	
4. Shed.	
5. Hip.	
6. Mansard.	
7. Dome.	
8. Lantern.	
9. Butterfly.	
C. Flat roofs.	
1. Construction.	IFSTA Manual 101, P. 54
(a) Concrete.	
(b) Gypsum.	
(c) Wood.	
(d) Metal.	
(e) Built up roof covering.	
2. Opening techniques for flat roofs.	
(a) Wood construction.	IFSTA Manual 101, Pgs. 55, 56 & 57

COURSE OUTLINE	GUIDES
(1) Select location for opening.	
(2) Locate roof supports by bouncing axe on roof.	
(3) Mark for cut - use pick end of axe.	
(4) Remove roof covering.	
NOTE: Make one large opening, rather than several small ones.	
(5) Cut decking diagonally alongside the joist.	Avoid cutting joist
(6) Pry up roof boards.	
(7) Use pole end of pike pole to push down ceiling.	
(b) Metal construction.	
(1) Use metal cutting tools.	
(2) Use power operated tools.	
(3) Use basic procedure outlined above.	
(c) Precast and concrete construction.	
(1) Avoid when possible.	
(2) Concrete, except for lightweight concrete, will be extemely hard to break thru.	
(3) Special tools will be required.	
D. Pitched roofs.	Brady Transp. F.E. #12

COURSE OUTLINE	GUIDES
1. Construction.	
(a) Rafters.	IFSTA Manual 101, P. 58
(1) Wood .	
(2) Metal.	
(b) Decking.	
(1) Wood sheathing.	
(2) Gypsum slabs.	
(c) Roofing materials.	
(1) Shingles - wood, metal, composition, asbestos, slate, or tile.	
(2) Roofing paper - may be mopped with asphalt roofing tar.	
2. Opening techniques for pitched roofs.	IFSTA Manual 101, P. 59
(a) Place roof ladder on either side of selected location.	
(b) Locate rafters.	
(c) Rip off shingles and roofing felt or cut metal covering.	
(d) Cut sheathing along side of rafter the distance required for the opening.	
(e) Cut opposite side in like manner.	
(f) Remove sheathing boards.	
(g) If necessary, use blunt end of pike pole to push down ceiling.	

COURSE OUTLINE	GUIDES
E. Arched roofs.	IFSTA Manual 101, P. 60
1. Construction.	
(a) Bow string.	
(b) Trussles.	
2. Opening.	NOTE: Operations on these type roofs can be extremely dangerous
(a) Opening techniques - same as for flat or pitched roofs.	
(b) Roof ladder usually cannot be used.	
(c) Use long straight, extension, or aerial ladders.	
(d) Observe proper safety precautions.	
F. Roof hatches and opening techniques.	
1. Roof hatches.	
(a) Metal - generally locked from below.	
(b) Wood - generally locked from below.	
2. Skylights.	
3. Shaft openings.	
4. Opening techniques.	
(a) Force locks or locking devices.	
(b) Pry open with forcible entry tools.	
VII. Floors.	
A. Types of floors and coverings.	

COURSE OUTLINE	GUIDES
1. Wood floors.	
2. Concrete floors.	Brady Transp. F.E. #13
3. Floor coverings (special kinds).	
B. Wood floors.	
1. Construction of wood floors.	
(a) Wood joist.	Explain fire cut
(b) Sub-flooring.	
(c) Top or finish flooring.	IFSTA Manual 101, P. 65
2. Procedures for opening wood floors.	
(a) Select site for opening.	Danger of encountering electrical wiring
(b) Locate joist.	
(c) Cut top flooring.	
(d) Cut sub-flooring.	
(e) Use of special power operated equipment.	
C. Concrete floors.	IFSTA Manual 101, P. 67
1. Construction features to consider.	
(a) Reinforcing rods or wire.	
(b) Floor thickness.	
2. Tools for opening concrete floors.	Avoid opening when possible

COURSE OUTLINE	GUIDES
(a) Jack hammer.	
(b) Power operated saw equipped with masonry cutting blade.	
VIII. Exterior Walls, Partitions, and Ceilings.	
A. Masonry wall.	
1. Construction.	
(a) Brick.	
(b) Stone.	
(c) Concrete block.	
(d) Brick veneer.	
(e) Glass block.	
2. Opening, breaching or breaking.	Brady Transp. F.E. #14 IFSTA Manual 101, P. 69 and 70
(a) Battering ram.	
(b) Hammerhead pick.	
(c) Power operated tools.	
(d) Special explosive devices.	
B. Wood frame walls.	IFSTA Manual 101, P. 69
1. Construction.	
(a) Studs.	
(b) Interior sheathing.	
(c) Exterior siding.	

COURSE OUTLINE	GUIDES
2. Opening techniques.	
(a) Determine location for opening.	
(b) Locate studs.	
(c) Cut or pry material away.	
C. Metal walls.	
1. Construction materials.	
(a) Aluminum.	
(b) Steel.	
2. Opening metal walls - tools used.	
(a) Metal cutting bars.	
(b) Oxyacetylene cutting torch.	
(c) Power operated tools.	
D. Partitions.	IFSTA Manual 101, P. 73
1. Construction.	
(a) Covered wood or metal studding.	
(b) Hollow clay tile.	
(c) Gypsum blocks.	
2. Procedures for opening partitions.	
(a) Select location for opening.	
(b) Avoid electric wall plugs and switches.	

COURSE OUTLINE	GUIDES
(c) Choose proper tools for job.	
(d) If studding is wood or metal, locate studs and cut along side with fire axe.	
(e) If partition is hollow clay tile or gypsum blocks, crush one or two blocks and the others will remove more easily.	
E. Ceilings.	Brady Transp. F.E. #15
1. Construction.	
(a) Regular ceilings.	
(1) Lath and plaster.	IFSTA Manual 101, P. 74
(2) Wood.	
(3) Ceiling tile.	
(4) Sheet metal.	
(5) Gypsum wall board.	
(b) Drop ceilings (false ceilings).	
2. Procedure for opening.	
(a) Using pike pole or plaster hook, break plaster or penetrate ceiling material.	
(b) Pull off lath or ceiling materials.	
(c) In drop ceilings it may be possible to simply lift ceiling tile blocks out.	
3. Safety precautions.	

COURSE OUTLINE	GUIDES
(a) Do not stand under site of opening.	
(b) Pull down and away from operator.	
(c) Wear protective clothing, particularly a helmet.	Danger from falling objects includes sparks
(d) Stand between work and opening by which retreat could be made.	
IX. Forcible Entry Practices Involving Federal Properties.	IFSTA Manual 101, P. 78
A. Some confusion has resulted as regards to fire fighting operations in federal buildings.	
B. Common federal buildings in which the local fire department may be called for fire suppression purposes.	
1. Post office.	
2. Bonded warehouses.	Discuss any located in fire department area
3. Small military post.	
4. Others.	